USER MANUAL

AUTOMATIC WATER SOFTENER

Smart B65

Water softenening devices, type **Smart B65** are ones of high quality and precision. Properly installed and operated, the **Smart** B65 devices guarantee infallible operations and increased durability. Please read this manual carefully before assembly. This manual serves as future reference to system operations.

Water softener, model **Boy B65** can be installed everywhere, where the flow rate of water is not higher that **75l/min**** and the water temperature is lower than **40°C**. The highest quality of components installed in Mijar products guarantees their infallible functionality for many years.

Technical Parameters:

System capacity for 10°dH:	[litres]	**1500**
Sal consumption per regeneration:	[kg]	**0.7**
Flow rate (nom/max):	[l/min]	**0-20*/75****
Pressure:	[bar]	**1.5-6.0**
Connections:	[cal]	**3/4"**
Maximum temperature of water:	[°C]	**<40**
Brine tank capacity:	[kg]	**10**
Amount of resin:	[l]	**5**
Power supply:	[V]	**230**
Height:	[mm]	**620**
Width:	[mm]	**240**
Depth:	[mm]	**440**

*****water softened completely
******water softened partially, only for valves type B65.

Counting the system's capacity for different water hardness:

The system capacity is counted using formula:

z=1500 x 10/y
where:
z-amount of water softened between regenerations.
Y-tested water hardness in °dH (Germann degrees of hardness)

EXAMPLE of counting the system capacity.

Data: tested water hardness: 15 °dH
using formula:

z=1500 x 10/15 →we receive the result of 1000 litres.

With a water hardness of 15°dH, the Smart B65 system will soften 1000 liters of water.

TABLE 1: SYSTEM CAPACITIES:

German Degrees(°dH)	System Capacity (litres)
10	1500
11	1363
12	1250
13	1154
14	1071
15	1000
16	938
17	882
18	833
19	789
20	750
21	714
22	681
23	652
24	625
25	600
26	577
27	556
28	536
29	517
30	500

2.SYSTEM OPERATION:

Softening process: (IN SERV)
Hard water contains dissolved minerals, among them Calcium and Magnesium ions responsible for limescale formation on heating parts of equipment. During the softening process, by mean of ion-exchange, the Calcium and Magnesium compounds are removed from water. As the water flows through resin deposits, the Magnesium and Calcium ions are being absorbed on the surface of resin beads. Over time the softening properties of resin will become depleted and it will have to be regenerated. The regeneration process proceeds automatically. During the regeneration mode the resin deposit is flushed with saline solution, thus absorbed minerals are rinsed from resin beads and flushed off to the sewage system. After the regeneration process the system regains full capacity.

Proces regeneracji: (REGEN)
During the regeneration process, the resin is rinsed by the saline solution. The regeneration cycle consists of 4 regeneration stages:

•countercurrent rinse(BACK WASH)
•saline solution rinse (BRINE+WASH)
•rapid rinse (RAPID RINSE)
•settling rinse(SETTLE RINSE)
•brine tank refill (BRINE REFILL)

2. SYSTEM PROGRAMMING: (Rys.1)

The regeneration process has been set to start at 2:00 AM by default. **After connecting the system to power supply the user must set the current time manually first.**

•Setting the current time and the time of regeneration (pic.1)

To set the current time, the user must press and hold the white button **(1), and simultaneously** turn the gearwheel **(2)** so in the gap **(3)** the current time is shown* (like on the watch). Nextly, release the white button **(1)** so it falls back between the gearwheel pins (2).

***"a"- morning hours** (midnight to midday) e.g. 9a=9:00 (AM)
„p"- afternoon hours (midday to midnight) e.g. 9p=21:00 (PM)

The valve is automatically set to start the regeneration process at **2.00 pm**. If the time of regeneration is to commence earlier, the user should accordingly turn the gearwheel (2) clockwise of counterclockwise from the current time.

•Setting the frequency of regeneration (pic.1)

Days of regeneration are set on the 12 day disk **(4)** by lifting up or lowering the pinions**(5).** Each pinion represents 1 day. First the user has to lower all of pinions **(5)** down **(4)** and then lift the pinions representing days, when the regeneration is to be carried out. Red arrow indicated current day.**(6)**

Example:

✔All of the pinions are lifted up- the regeneration takes place everyday.
✔Every second pinion is lifted up- the regeneration takes place every second day.
✔Every third pinion is lifted up- The regeneration takes place every third day.
✔And so on...

•Manual initiation of regeneration process (rys 1.)

To manually initiate the regeneration process, the user has to turn the knob **(7)** clockwise until **REGEN** is shown in the gap. The know **(7)** will turn and when the regeneration process is finished, the knob will reach the (**IN SERV)** position**. Thank to the built-in water mixer, during the regeneration mode hard water is available.**

Rys. 1 Control Valve.

3. ASSEMBLY AND INITIATION OF THE SYSTEM:

Before initiating the device, the user must set the **current time** and the day of regeneration (see point 2).
The valve is set to carry out the regeneration every 6 days at 2:00 am by default.

Connecting the device: (pic. 2)

1.Connect inlet **(B)** and outlet **(C)** of the device to the water supply.
1.Connect one side of the draining elastic hose 1/2", to the fitting **(A)** and the other to the sewage system. The sewage system should be unobstructed enough to discard **5 l/min** of rinse water. The elastic hose should be inflexible enough to rule out the possibility of cloggs, which can lead to overflow of brine tank.
2.Slowly turn on raw water supply valve .
3.Pour approximately. 45kg of tablet salts into the brine tank
4.Deaerate system by turning the knob **7** (rys.1) clockwise to the **BACK WASH** position. After few minutes the system will deaerate. Next, turn the knob back to the **IN SERV** position and the system will go back to water softening mode
5.Pour about 5 liters to the brine tank .
6.Connect the device to power supply 230V (**D)** and set the current time (see point 2)

PIC. 2 Device connections.

4.HANDLING THE DEVICE:

The proper handling of the device requires periodic tablet salt refill.
The brine tank should be fully refilled every time. The minimum amount of salt that must be in the tank

for the device to function properly, is about **1/3 of brine tank capacity**.

Refilling the salt tablets:
•Lift the cover of the device,
•Pour the salt tablets.
•Close the lid.

NOTE!:

✗The device must not operate without salt tablets for more than 14 days, otherwise the system may be damaged.
✗The user must not use the loose salt or salt of unknown origin.